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ABSTRACT

Described in this paper is the development and evaluation of the Employability Skills Series by the Florida Department of Education, 1975-1977. Focusing on skills involved in getting and keeping any job, the series is intended for use with secondary students and adults and is on approximately a fifth grade reading level. It consists of six student booklets, an instructor's guide for each, an annotated resource guide, an educational game, and a filmstrip/cassette. Four features are considered essential in the competency based series: (1) the statement of objectives as measurable, observable activities, (2) the possession of objectives by students as well as instructors, (3) the matching of instruction and tests to objectives, and (4) criterion referencing for student evaluation. When the project staff consulted teachers and district and state administrators about the type of materials considered most useful, teachers requested the adaptable, student-oriented type rather than curriculum guides. Materials were tested three times during the development (one-on-one testing, small group testing with one or two classrooms, and a field test which involved four to six classrooms), and pre- and posttests were administered to measure effectiveness. Tested classes ranged from seventh grade to adult, and eighty-six classes and fifty-nine teachers in ten counties were involved in the small group tests and field tests. The decisions considered most important in designing the series were to develop validated student materials and to choose a format which allows an instructor to choose individual units and select objectives. It was concluded that, based on reaction to date, those were good decisions. (Data tables and references are appended.) (VB)

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THE SYSTEMATIC DESIGN, DEVELOPMENT,
AND EVALUATION OF COMPETENCY-BASED
INSTRUCTIONAL MATERIALS FOR EMPLOYABILITY SKILLS

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Purpose

Across the country, school systems are becoming interested in seeing that all students learn the basic skills needed for survival in the working world. A cry of "back to basics" is heard from parents and legislators. Public school systems have placed increasing emphasis on career education and the teaching of vocational skills.

There is more to getting a job, however, than learning job skills. Not only must a person know what to do to get a job--where to look, how to apply, how to be interviewed--but s(he) must also know what to do to keep the job s(he) gets. Parents, employers, and even legislators have deplored the fact that many high school graduates cannot write a check, fill out a job application form correctly, or successfully complete a job interview.

In Florida, a new set of materials--the Employability Skills Series (Florida Department of Education, 1975-77)--has been made available to educators who wish to teach some or all of these skills. The purpose of this paper is to describe the development and evaluation of this Series.

Background for the Series

Employability skills are not technical job skills. Rather, they are the cross-vocational skills involved in getting and keeping any job. They include choosing an occupation, locating a job opening, applying and being

interviewed for a job, good work habits, personal finances, and correct ways to handle job changes such as resignations, promotions, or the loss of a job.

Instruction in these skills is often included in vocational education, especially in cooperative education and in work experience programs. In addition, the recent emphasis on career education for all students has focussed attention on employability skills. For example, they have been identified as one of the eight elements of the Comprehensive Career Education Model formulated at the Ohio State University Center for Vocational and Technical Education. (Miller, 1972.)

Recognizing the importance of employability skills for all students, the Florida Department of Education, Division of Vocational Education, has sponsored several projects to assist educators interested in the subject.

The Employability Skills Guide for Work Experience Programs (Florida Department of Education, 1971) lists performance objectives, learning experiences, resources, and methods of evaluation. The Guide is organized around the goals of Florida's work experience programs.

In the spring of 1971, another project was initiated at Florida A&M University. Its purpose was to develop and field-test a catalog of performance objectives and related test items for employability skills. Working closely with a committee drawn from business, government, and education, the project staff identified a domain of skills, then wrote objectives and test items which were classroom-tested in urban and rural counties. The resulting publication was the Florida Catalog of Occupational Education Objectives (Florida Department of Education, 1973).

In September, 1974, a project was begun at the Florida State University, Career Education Center to develop and field-test materials that would enable students in vocational and academic courses to achieve the objectives in the Catalog. The Employability Skills Series is the result of that project.

Components of the Employability Skills Series

The Series consists of six student booklets, an Instructor's Guide for each booklet, an annotated resource guide, an educational game, and a filmstrip/cassette. The student booklets are entitled Choosing an Occupation, Your Job Search, Applying for a Job, Good Work!, Personal Finances, and Job Changes. The resource guide is A Guide to Employability Skills Materials. The game, Job Scene, and filmstrip/cassette, Your Job: Will You Keep It?, are designed to teach good work habits and interpersonal relations.

The Series is intended for use with secondary students and adults. It was developed in close collaboration with teachers throughout all stages of the design and testing of the materials.

Theoretical Considerations

Competency-based instruction has been defined in many ways. But most educators would probably agree that the following features are essential:

1. Objectives are stated in terms of observable, measurable activities.
2. Students, as well as instructors, have a list of the objectives.
If the student is expected to do something, he or she must be told what it is.
3. The instruction and tests are matched to the objectives.

4. A student's performance is evaluated in comparison to the test standard (criterion-referenced testing), not to the performances of other students. If the performance meets that standard, the student passes the objective. If not, the student does not pass the objective and should be given additional instruction until she or he can.

Assessment of student performance on each objective, so essential to competency-based instruction, has received increasing attention in recent years. Particularly in vocational education, such assessment is not limited to cognitive objectives, usually measured with written or verbal tests. A large part of the assessment task concerns performances such as tuning a car, measuring a patient's blood pressure, or interviewing for a job. If the test is to determine whether the student has mastered these objectives, the test must require the same behavior specified in the objective. Ideally, the method of assessment should be impartial and objective; it should be the same for every student, and should be the same for different evaluators. The most common performance rating methods for achieving these goals are checklists and rating scales (Glaser & Klaus, 1963). In both methods, the important components or qualities of the performance must first be defined. A checklist is used if each component must simply be checked as present or absent, acceptable or unacceptable, right or wrong. A rating scale is used when the degree of quality of performance is important (Florida Department of Education, 1977). A scale is then constructed for each component, and the evaluator selects a point on each scale which represents his or her assessment of the student's performance on that component.

The checklist method was used in the Employability Skills Series. For each performance test, the essential components of an acceptable performance

were defined. To pass the test, a student's performance had to be rated acceptable for every item on the checklist.

Setting Design Goals

The project staff consulted teachers and district and state program administrators about the type of materials that would be most useful in providing employability skills instruction to Florida's students. They interviewed educators individually, held advisory committee meetings, and mailed survey questionnaires to those working in the Florida public school system. The results showed that many vocational and non-vocational teachers were interested in teaching employability skills and that this interest was not limited to a few topics.

The educators gave some clear guidelines for the materials. They wanted the materials to be flexible, that is, usable by instructors in different subject areas and in different situations. One teacher might plan to do a complete unit on employability skills at one time--setting the unit apart from the regular course content. Some teachers might intend to use the materials from time to time, mixed in with other course content. Others might use the materials as a one-shot workshop or minicourse available to students who were ready to make the transition from the world of school to the world of work. Teachers also recommended that the materials be developed for student use rather than as a curriculum guide. Most teachers felt they did not have the time to develop all of their own materials. They said they needed materials that were ready to use, but that could be adapted to suit their situations. In addition, the educators recommended that the curriculum team keep the reading level fairly low, since many high school students read far below their grade level.

The curriculum team began by examining existing employability skills materials to get comprehensive, up-to-date information for the content of the series. A useful by-product of this activity was the publication of an annotated resource guide called A Guide to Employability Skills Materials (Florida Department of Education, 1975).

Design of the Units

The team set to work to design units that would meet the criteria recommended by the educators. They wanted to produce instructional units that would be flexible, readable, and ready for students to use. The format they designed uses the student objective as the structural element of the unit. Each unit begins with a list of these objectives so that students can see exactly what they will be expected to know or to be able to do upon completion of the unit. The materials also provide instructional information, activities, and test items for each objective. The student booklets are self-instructional and self-contained.

This format has two advantages. First, the instructors can look over the list of objectives and decide whether all of the objectives are appropriate for their classroom situations. Teachers may allow students to study only those parts of the booklet that pertain to the objectives selected for classroom study. A second advantage is the compatibility of the format with competency-based instruction. In keeping with vocational education's increased emphasis on student achievement of preset standards of competence, these booklets provide students and teachers with precise criteria for demonstrating competence on each objective.

The booklets include two kinds of objectives--knowledge objectives and performance objectives. The knowledge objectives ask students to list, to

identify, to name. Teachers can test student competence on these knowledge objectives by giving written unit tests. The performance objectives require the student to perform the task, such as filling out an application form, role-playing a job interview, or writing a letter of resignation. For each such objective, the materials contain a performance checklist so that student and instructor can use it to be certain the student's performance meets the standard. Of course, the instructor can add or delete items on the checklist to suit the particular classroom situation. For example, twelfth-grade business education students might be required to type a letter of application with precise margins, etc. A teacher in a different class might find a neatly handwritten letter acceptable, provided the content was correct. The instruction in the booklets is matched to the checklists. Therefore, an instructor who adds stricter requirements to the performance checklist must be sure to adjust the instruction to match these requirements.

To complete a unit, a student must pass a written test over the knowledge objectives and successfully perform each of the performance objectives. The reasoning behind using two types of tests is that students must not only know certain types of information, but they must also be able to do certain things to be able to get and keep a job. Knowing about interviewing is not the same as being able to take part in an interview, though both are important.

Although the booklets are oriented to a young adult audience, the curriculum team made sure that the booklets were written on approximately the fifth-grade reading level. Graphic designers worked closely with instructional designers to provide illustrations and layouts that contribute

to the instructional effectiveness as well as the attractiveness of the booklets.

Each of the six student booklets has an accompanying instructor's guide. The instructor's guide includes procedures for using the materials, enrichment ideas, tests, answer keys, and record sheets. Field-test teachers found the enrichment section especially valuable, since it consists of discussion questions, suggestions for additional activities, and a list of resources that would be useful for supplementing the instruction.

Although the printed student booklets form the backbone of the series, the game and filmstrip/cassette present information about the work habits and interpersonal relationships which are so important in keeping a job. The filmstrip, Your Job: Will You Keep It?, portrays young people in situations which cover the reasons people work, the reasons for avoiding losing a job, and examples of the employability skills needed to keep a job.

In playing the game, Job Scene, the student makes decisions regarding work habits and interpersonal relationships and begins to see the consequences of those decisions. In addition to giving the students practice in making on-the-job decisions, Job Scene builds student awareness of the relationship between income and expenses and how anticipated and unexpected events affect that relationship.

Validation of the Instructional Materials

To ensure the effectiveness and relevance of the materials, the curriculum team involved teachers in every phase of the project. The objectives used in the materials corresponded closely, for the most part, to those in

the Florida Catalog of Occupational Education Objectives, which had been previously validated for relevance and comprehensiveness by a panel of 65 educators, government officials, and business people. (However, instructional materials were not developed for the objectives in communications and computational skills.)

The teacher advisory committee made recommendations on format and reviewed drafts of the resource guide. Teachers representing every vocational program and several nonvocational subject areas responded to a survey questionnaire. The 66 teachers responding indicated their preferences concerning the types of materials needed, which media were appropriate for each section, the reading level of their students and other information.

As the materials were developed, each unit was tested three times--one-on-one testing, small group testing with one or two classrooms, and a field test which typically involved four to six classrooms.

Pretests and posttests were administered to measure effectiveness, and students and teachers responded to questionnaires about the units. In all, 86 classes and 59 teachers in 10 counties were involved in the small group tests and field tests. As shown in Table 1, field test classrooms included a variety of vocational and academic subject areas. Test classes ranged from seventh grade to adult. The field test pretest/posttest data are shown in Tables 2 and 3.

After each round of testing, the materials were revised for any objective that was not achieved by at least 80 percent of the students.

Table 1
Number of Instructors Involved in Small Group and
Field Tests by Instructor's Subject Area and Module Tested

Instructor's Subject Area	Choosing An Occu- pation	Your Job Search	Applying For A Job	Good Work!	Personal Finances	Job Changes	Game	Film- strip	Total ^a
Agri- Business					1				1
Business		1	2	3	4	1		1	12
DCT/Work Experience	4	1		4	1	2	2	2	16
Distribu- tive	1					3			4
Home Economics	2		2	1			1	1	7
Industrial Arts		1					1		2
Alternative Learning	1			1	1	2			5
Business Math	1				3				4
Language Arts	2	2	2	1			4	3	14
Mathematics					3				3
Psychology			1						1
Reading				1					1
Social Studies			2				2	1	5
Guidance		1							1
Occupational Specialist	1	2	3	1	1	1		1	10
Total	12	8	12	12	14	9	10	9	86 ^a
Number of counties in which tested	5	5	4	5	5	5	2	3	

^aThis total includes instructors who taught more than one module.

Table 2

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Field-Test Results: Percent of Students At or Above Criterion
on Pretest and Posttest Over Knowledge Objectives

Objective ^a	n	Percent At or Above Criterion	
		Pretest	Posttest
"Choosing An Occupation"			
List kinds of self-information	177	1	69
List ways to find self-information	176	3	80
List types & examples of occupational information	174	0	73
Write titles of sources of occupational information	170	1	77
List ways to obtain occupational information	164	27	79
"Job Search"			
List ways to find job openings	108	41	81
Identify characteristics of employment agencies	105	64	86
List types of information in want ads	103	58	84
List ways to contact employers	104	55	91
"Applying For A Job"			
List ways to get applicant information	162	45	77
List official papers needed for a job	162	37	86
List information to give during interview	145	3	39
List information to get during interview	145	5	41
List preemployment test-taking tips	126	2	79
List factors to consider before taking a job	124	57	86
"Good Work"			
List consequences of being late or absent	151	26	85
State what to do if late or absent	151	38	83
State how to get help the first day	151	75	94
State how to handle a mistake on the job	150	31	63
List consequences of stealing	150	58	93
List what to do about a safety hazard	150	66	97
State how to propose a better method	150	77	97
Plan three balanced meals	147	14	56

^aA short phrase representing the content of the objective is listed here. The full objectives, with conditions and standards, are listed in the instructor's guide for each module.

Table 2 - Continued

Objective	n	Percent At or Above Criterion Pretest	Posttest
"Personal Finances"			
List paycheck deductions	42	45	98
Name fringe benefits	42	64	83
List services that taxes pay for	42	76	93
List smart shopping rules	40	3	100
List credit buying dangers	39	5	95
List consequences of not paying bills	39	56	100
List reasons for keeping a budget	66	27	86
Identify types of insurance	55	98	100
Identify high & low interest loan sources	55	60	84
List benefits of savings account	55	60	76
Fill out a deposit slip	40	48	83
Write a check	51	67	80
"Job Changes"			
List qualities desirable for promotion	139	8	95
List steps in a promotion plan	138	1	86
Name reasons for resigning	136	6	90
List do's & don'ts for resigning	137	1	82
List considerations in changing careers	131	1	79
List steps to take after job loss	131	2	83
Filmstrip, "Your Job: Will You Keep It?"			
List reasons for keeping a job	94	38	39
Identify examples of job skills	94	66	81
Identify examples of employability skills	94	63	81
List procedures for following instructions	93	47	71
List good work habits	93	38	48
List problems caused by poor employability skills	93	59	63
List reasons why people lose jobs	94	82	91

Table 3
Field-Test Results: Percent of Students At or Above
Criterion on Posttest Over Performance Objective

Objective ^a	n	Percent At or Above Criterion ^b
"Choosing An Occupation"		
Complete Occupation Exploration Worksheet	156	91
Complete worksheet matching self to occupation	155	90
"Job Search"		
Fill in Social Security card application	133	96
Locate employment agencies	122	90
Locate sources of information for government jobs	115	93
Write letter of application	105	90
Telephone about a job opening	88	92
"Applying For A Job"		
Complete a resume	218	86
Fill out an application form	203	67
Dress for an interview	78	95
Role-play an interview	77	84
Write a follow-up letter	178	81
"Good Work!"		
Begin & finish a task on time	146	97
Record a telephone message	155	100
Follow safety rules	145	99
Complete task without wasting materials	145	98
Clean & return materials after task	144	99
Follow written instructions	145	98
Follow oral instructions	145	98

^aA short phrase representing the activity specified in the objective is listed here. The full objectives, with conditions & standards, are listed in the instructor's guides.

^bAs scored by the instructor.

Table 3 - Continued

Objective	n	Percent At or Above Criterion
<u>"Personal Finances"</u>		
Fill out an income tax form	53	74
Balance a personal budget	47	72
Balance a checkbook	51	82
<u>"Job Changes"</u>		
Write a letter of resignation	136	95

Dissemination

Approximately 10,000 copies of each student unit were distributed through an in-service program to Florida's secondary schools, vocational technical centers, and community colleges. An in-service training presentation was developed at the Career Education Center. Each school was invited to send one representative to a workshop to be trained in the use of the materials. If this trainee then went back and held a training session in his or her school for the faculty, the school received a free classroom set of materials.

The materials are copyrighted by the State of Florida, however, Florida teachers may reproduce part or all of the materials for classroom use in the form of transparencies, "ditto" masters, etc.

Some Issues in Development

For some objectives, for example, filling out an income tax form, the question arose whether to design materials to teach the particular procedure

(filling out the 1978 1040A short form) or concepts and generic skills such as following written instructions and calculating percents. After consultation with classroom teachers, the project staff chose to use a combination of both approaches. The teaching of concepts, such as the general types of information on any income tax form, should help the student cope with annual changes in design of the tax forms. At the same time, learning activities and test items were provided to ensure the student's ability to fill out a particular tax form correctly.

Another issue was standardization of the field test situation. The materials were designed for flexibility, and it was expected that in actual classroom use teachers would add a variety of learning experiences appropriate for their own subject area and classroom situation. In fact, suggestions for additional activities are included and recommended in the instructor's guide. But in order to ensure that any measured learning gains resulted from the use of the materials themselves, the project evaluator directed field-test teachers to stick closely to the learning activities in the materials. It is assumed that the data reported in this paper would, if anything, understate the results to be expected when the materials are used in a normal teaching situation. Another reason for recommending additional activities is that the continuous use of self-instructional basic modules, unrelieved by additional activities, would be very boring for many students.

The cost of a large-scale instructional materials development project, such as this one, must be considered in relation to the number of students who use the product. The development and testing of the Employability Skills Series extended over a period of two and a half years, and required approximately 78 person-months, plus a considerable amount of personnel time for

editing, art, layout, and dissemination. The result--a set of validated, objectives-based student materials--was not available elsewhere. In this case, the cost may be justified, as the potential student population is so large. All secondary and post-secondary students, in academic as well as vocational classrooms, need to know how to get and keep a job.

By far the most important decisions made in designing the Series were (1) the decision to develop validated student materials rather than curriculum guides or other instructor materials, and (2) the choice of a modular format which allows an instructor to choose individual units and to select objectives, making the materials usable in a variety of academic and vocational classroom settings. Based on reaction to date, these appear to have been good decisions.

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